A multi-functional machine for: Modelmakers • Engineers • Scientists • Designers • Inventors • Instrument makers • Hobbyists • Mechanics • Camera repairmen • Gunsmiths • Watchmakers • Architects • Tool & diemakers • Lab technicians •

the basic
UNIMAT

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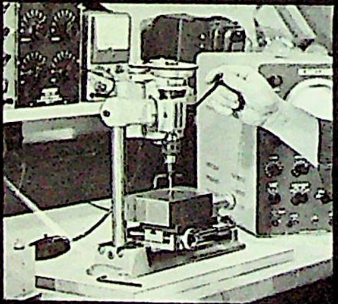
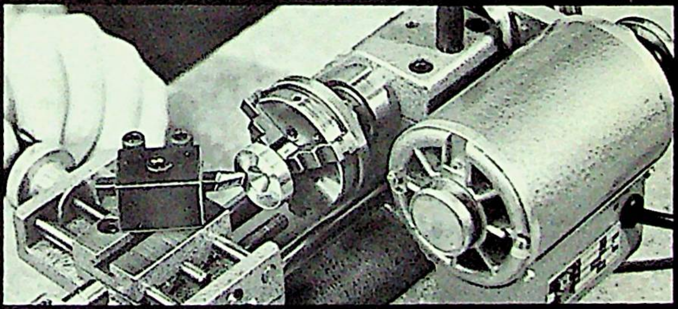
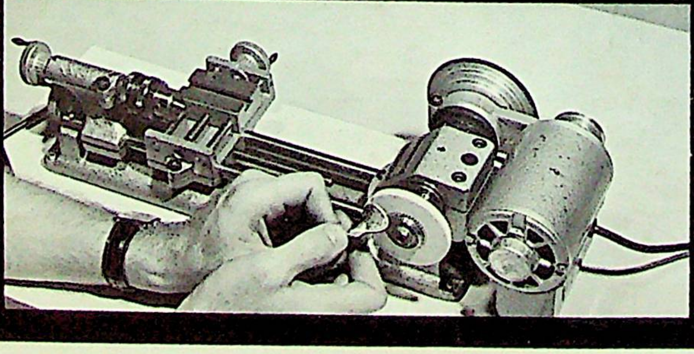
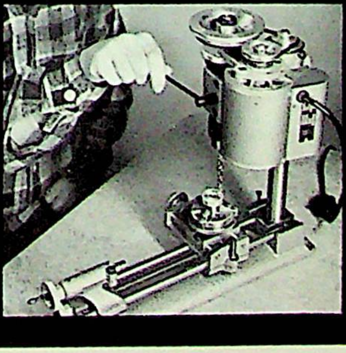
AMERICAN EDELSTAAL, INC. • 350 BROADWAY, NEW YORK 13, N.Y.



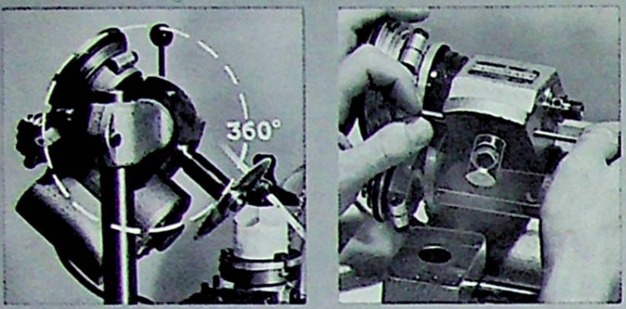




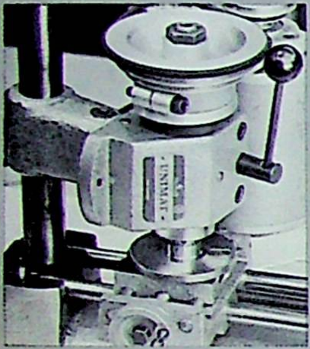


unique, multi-functional... UNIMAT

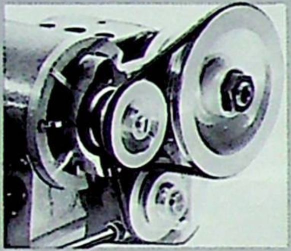
Rotating Detachable Headstock



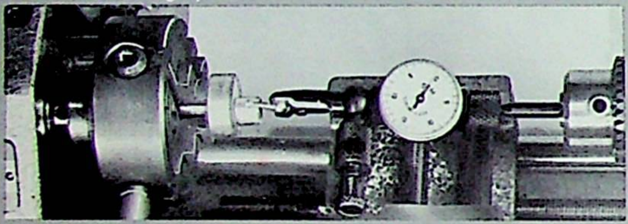
Versatile Vertical Column



11-Speed Spindle Drive



Ball Bearing Spindle Delivers .0005-inch Tolerances



Here is the only machine tool of its kind in the world! This one, compact tool has the full capability of a precision machine shop. Basic UNIMAT turns, faces, bores, recesses, parts-off, polishes...then, *in less than a minute*, becomes a *vertical* machine...mills, drills, jig bores, surface-grinds.

UNIMAT is indispensable to literally thousands of miniaturization programs... in defense, R&D facilities, scientific labs, prototype and model shops, tool rooms – wherever small parts must be machined to micrometer accuracy.

Difficult to operate? Far from it. UNIMAT is so simple in design that anyone can soon perform all basic machining operations with professional skill, ease, and safety. You have only to turn a handwheel to produce precision parts to split-thousandths of an inch accuracy!

Here too, is the key to a whole new world of lasting interest...a new dimension to your favorite hobby. UNIMAT gives you full command of metal, plastics, and wood. You'll be astonished at its possibilities as every day reveals new things you can do with this amazing machine.

IF YOU HAVE A HOBBY YOU NEED UNIMAT!

EXCLUSIVE FEATURES OF THE BASIC UNIMAT

Rotating, Detachable Headstock. This unique feature is the key to Unimat's amazing versatility. The headstock-motor unit is designed for quick removal from the lathe bed and attachment to the vertical column. Conversion to vertical miller, drill press or surface grinder **takes less than a minute.** Headstock features a precision ball bearing spindle, with lever-actuated quill feed of 5/8-inch and spindle return spring. On lathe bed or vertical column, Unimat's headstock can be rotated through 360°—locked solid at any angle! You can turn tapers, do off-bed grinding and polishing, mill, drill or surface grind at compound angles. When changing back to lathe set-up, headstock automatically aligns perfectly with tailstock.

Motor. Included in Basic Unimat is a balanced and vibration-free motor of highest quality and efficiency. It operates on 110V AC/DC and delivers 1/10 hp.

Versatile Vertical Column. The steel vertical column mounts in the lathe bed in place of the headstock. The headstock-motor unit then mounts to the adapter of the vertical column. This set-up is the base for all important vertical milling, drilling and surface grinding operations.

11-Speed Spindle Drive System. The ball bearing spindle is belt driven. The motor and a ball bearing equipped idler pulley provide speeds from 900 to 7200 rpm. Modern outboard drive design makes belt change quick and easy.

Tolerances of .0005-inch Guarantees Precision Results. The precision ball bearing spindle has a maximum run-out guaranteed no more than .0005-inch when turning between centers. The spindle is equipped with 2 single-row, self-adjusting radial thrust ball bearings.

General Specifications

Horizontal

Swing over bed	3″
Swing over cross slide	1⁹⁄₁₀″
Distance between centers	6⁹⁄₁₀″

Vertical

Spindle nose to cross slide	6¼″
Drill to center of circle	6⅛″

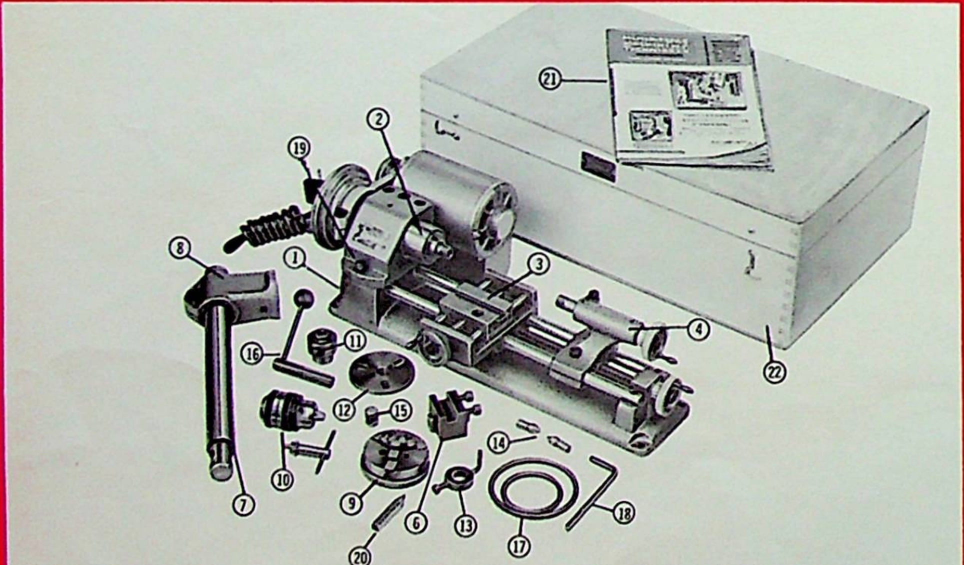
Components

Headstock rotation	360°
Headstock spindle bore, takes	1/4″
Headstock spindle feed	5/8″
Tailstock travel	6½″
Tailstock spindle travel	3/4″
Carriage travel	6½″
Cross slide travel	2″
Tool post capacity–(centers standard 1/4″ tool bits)	3/8″
Handwheel graduations	.002″
Motor HP (110V-AC/DC)	1/10
Speed range (11 speeds)	900-7200 rpm.
Accuracy, spindle runout	.0005″
Over-all dimensions	14½″ x 4″ x 5″

Construction Specifications

Headstock spindle & idler bearings	*precision radial thrust ball bearings*
All machine castings	*high grade, seasoned cast iron*
Pulleys and handwheels	*duraluminum*

All These Components Are Included in the Basic Unit



Complete with powerful 1/10 hp motor and the following components:

1. Ribbed, cast-iron Lathe Bed
2. Ball Bearing Headstock Spindle
3. Carriage Assembly
4. Tailstock
5. Ball Bearing Idler Pulley
6. Tool Post
7. Steel Vertical Column
8. Vertical Column Headstock Adapter
9. 3-Jaw Universal Lathe Chuck
10. Jacobs-type Drill Chuck & Key
11. Grinding Wheel Arbor
12. Face Plate
13. Lathe Dog
14. Dead Centers (two)
15. Slotted Adapter
16. Spindle-feed Hand Lever
17. Set of Drive Belts
18. Allen Wrench
19. Headstock Alignment Pin
20. Roughing Tool Bit
21. 40 Page Instruction Manual
22. Wood Storage Chest

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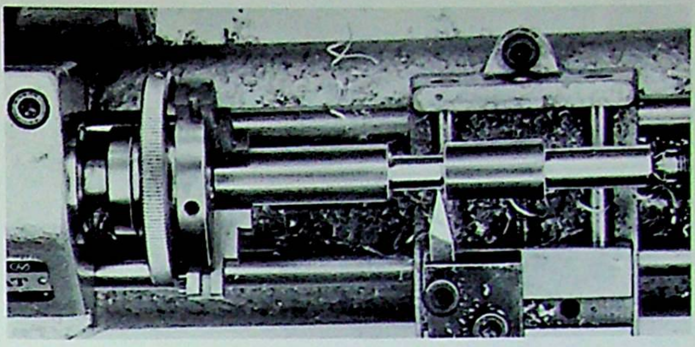
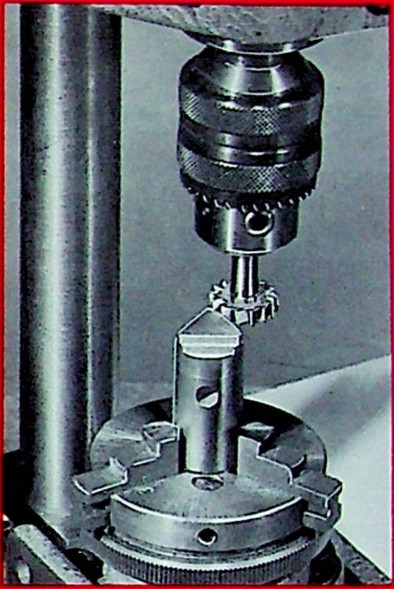
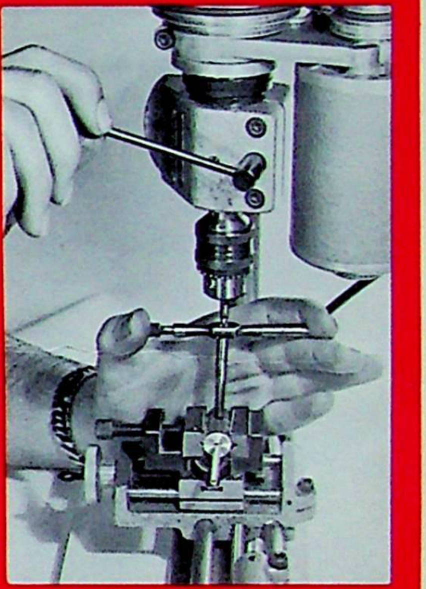
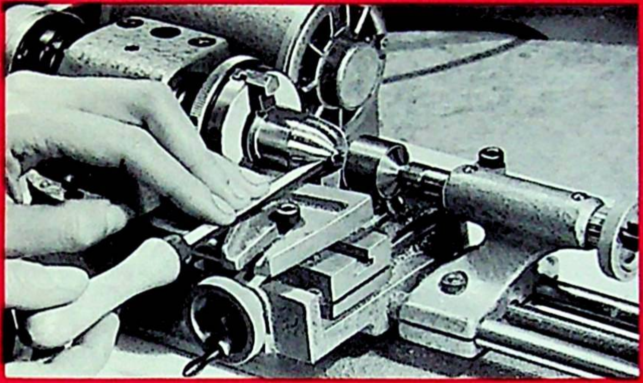
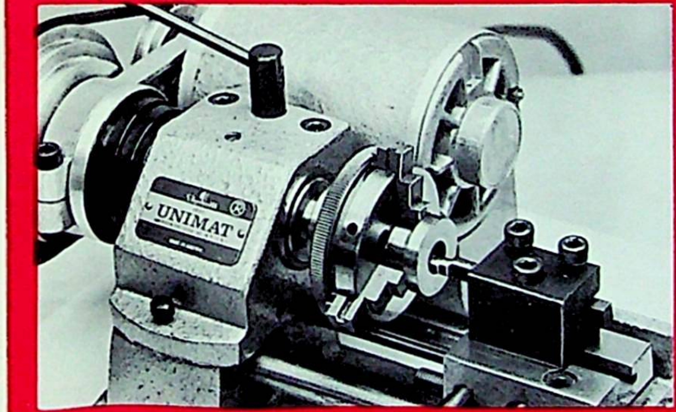
versatile functions of the basic UNIMAT


turning • recessing

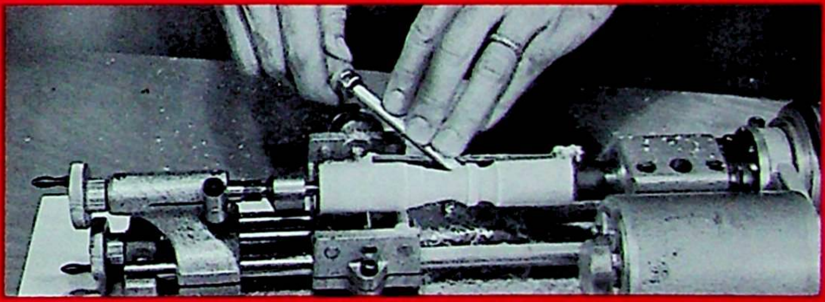

vertical milling

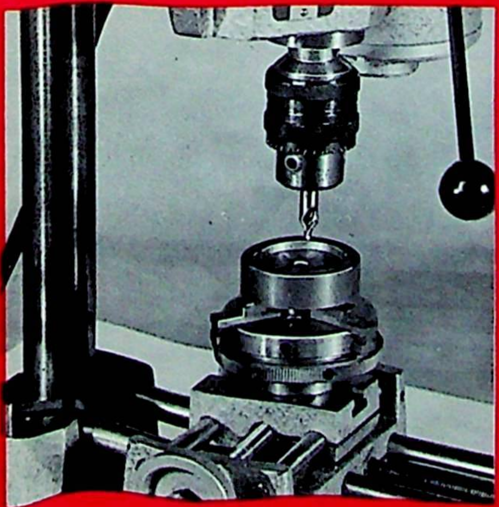

machine tapping

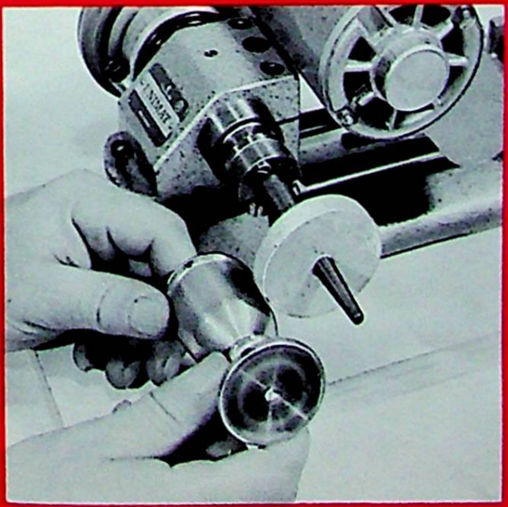

free-hand turning

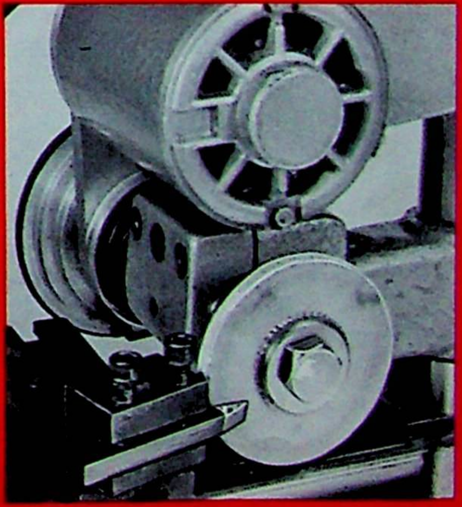


facing • boring

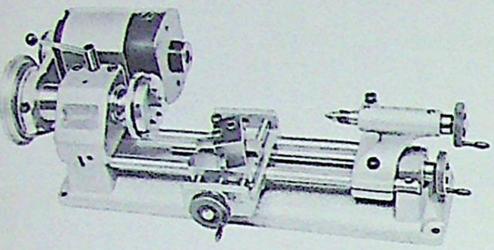

wood turning


center drilling


buffing

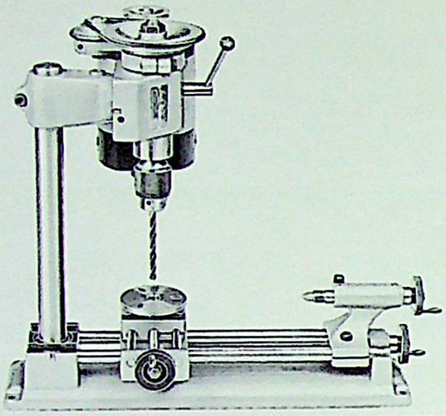

tool grinding

UNIMAT SET UP AS LATHE. Bed dimensions: L. 14½" x W. 4" x H. 5". Work capacity: 6 9/10" between centers; swing over bed, 3"; swing over carriage, 1 6/10"; bore through headstock spindle takes ¼". Center in spindle, straight shank. Headstock and tailstock threaded for mounting lathe or drill chuck. Tailstock travel, 6½". Tailstock Spindle travel, ¾". Center in tailstock, straight shank. Carriage travel, 6½". Cross Slide travel, 2". Carriage and Cross Feed Hand Wheel, .002" per micro-division. Tool Post capacity, ⅜". Standard ¼" square tool bits used. Weight of Basic Unit, 30 lbs. Tolerances to .0005" turning between centers.

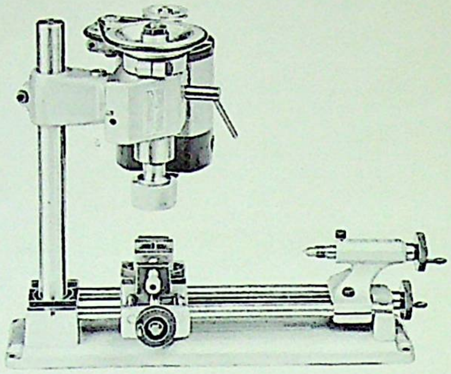


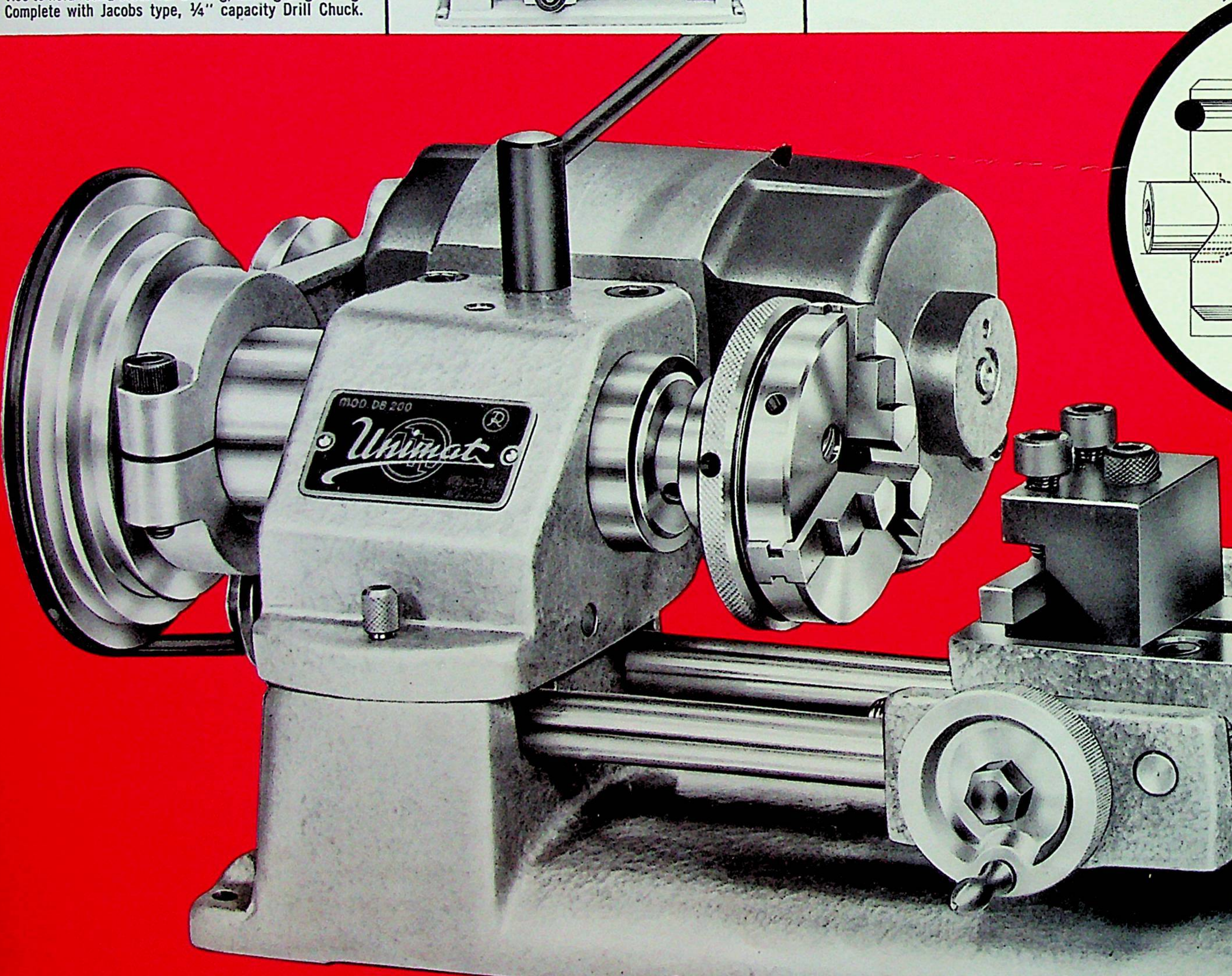
Complete with 3-jaw (reversible) universal lathe chuck, Cushman type, factory-trued to lathe spindle. Capacity: mounted on spindle, 2¼". With adapter (furnished) chuck can also be mounted on cross slide and used as a vise to hold round stock for drilling, milling or grinding. Complete with Jacobs type, ¼" capacity Drill Chuck.

UNIMAT SET UP AS A DRILL PRESS. Sets up easily for use as a drill press by mounting Headstock & Motor unit on vertical steel post which comes with Basic Unit. Motor and Headstock unit can be raised, lowered, and locked at any point on post. Rotating Headstock can be set at any angle for angle drilling. Maximum chuck to base, 5". Spindle can be moved 1" by means of removable handle. Chuck to column, 3 1/16". With adapter (furnished) face plate can be mounted on cross slide, and used as a table, as illustrated. (Lathe chuck can be mounted in same manner as face plate, and used as a circular vise.)



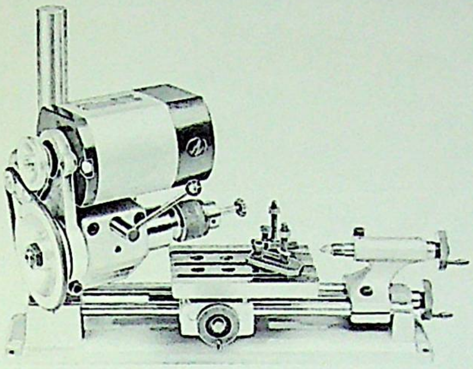
UNIMAT SET UP AS A TOOL AND SURFACE GRINDER. Attach grindstone arbor and stone to headstock spindle and use either vertically, as shown, or with headstock conventionally mounted on lathe bed. Headstock can be set at any desired angle for exact grinding of the most complicated tools and surfaces. (Machine Vise shown is additional. See "Accessories" on back page for DB-1010).



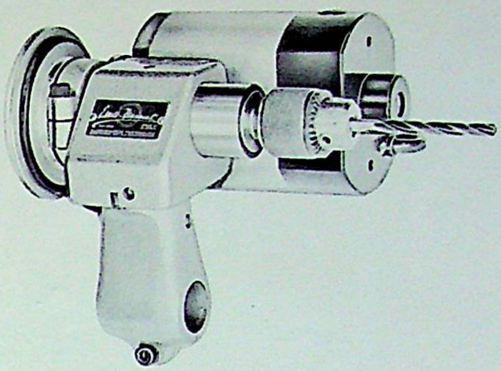


COMPLETE BASIC UNIMAT $\$139^{5}$

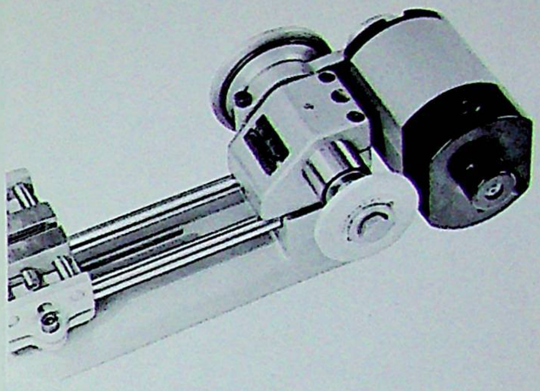
UNIMAT SET UP AS A VERTICAL MILLING MACHINE. Set up like Drill Press for horizontal or vertical milling of slots, grooves, bevels, key-ways, prisms and all wide-angle work. This is one of the most useful functions of the versatile UNIMAT. (Milling Table shown here is extra. See "Accessories" on back page for DB-1210.)

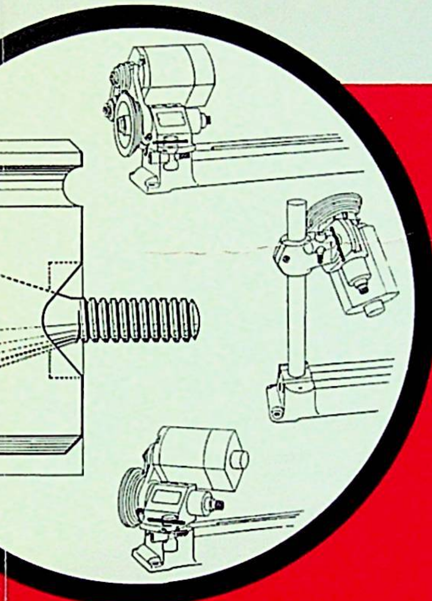


UNIMAT USED AS A HAND DRILL. Removed from the lathe bed, the headstock and motor unit becomes the only portable hand drill in the world with 11 variable speeds! 255 rpm to 4,000 rpm!



UNIMAT SET UP AS A POLISHING AND GRINDING MACHINE. A conventional — and most efficient — grinder and polisher when headstock and motor unit is rotated and locked at right angle to the lathe bed. UNIMAT's high-speed range assures efficient grinding of all materials, and gives precision finishes.

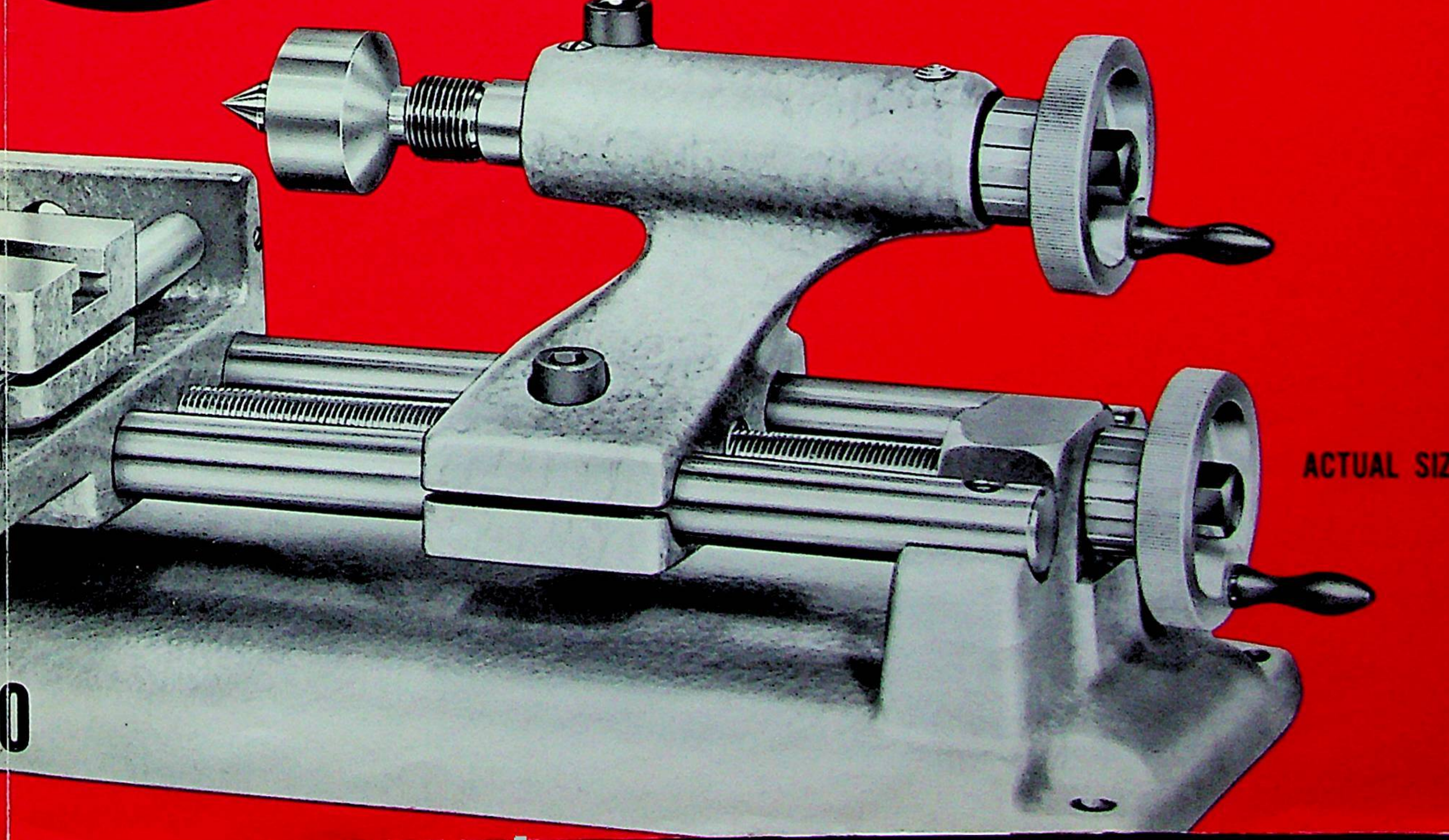




◀ROTATING HEADSTOCK

THE SECRET OF UNIMAT'S AMAZING VERSATILITY!

(drawings show interior of headstock, how it can be rotated 360° and locked at any desired angle, both on the lathe bed, and on the vertical post)



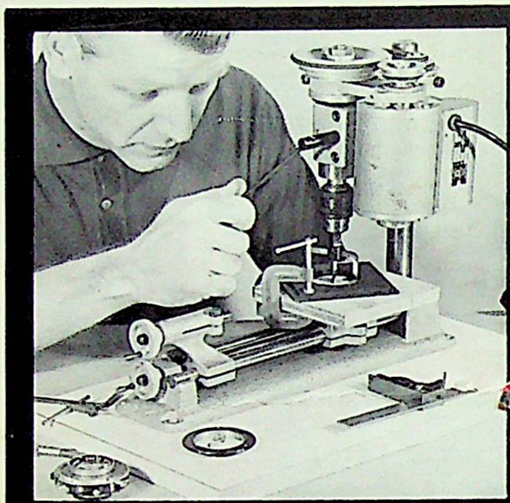
ACTUAL SIZE

do-it-yourself R & D

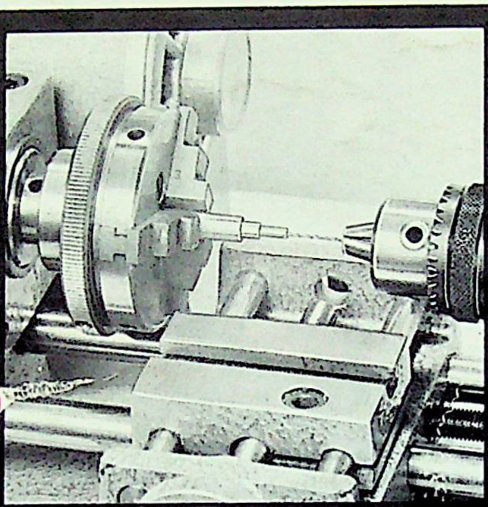
More than 10,000 Unimats in a diversity of research, industrial and commercial applications attest to the extraordinary versatility and watchwork precision of this complete metalworking machine shop. The Unimat provides in just 16 inches of bench space, an all-round metal working capability which makes the unit ideal for the *complete machining* of all small parts. The list of industrial users is impressive. Here are but a few:

The Rockefeller Foundation
Bell Telephone Laboratories
Boeing Aircraft Corp.
John Hopkins Hospital
Weston Instruments
Argonne National Labs
Massachusetts Inst. of Technology
Lockheed Missile & Space Div.
U.S. Air Force
Union Carbide Nuclear Div.
Monsanto Chemical Co.
National Bureau of Standards
General Dynamics
Georgia Inst. of Tech.
Radio Corp. of America
Smithsonian Institution
The Dow Chemical Co.
U.S. Naval Research Labs
E.I. Du Pont De Nemours
Socony Mobil Oil Co.

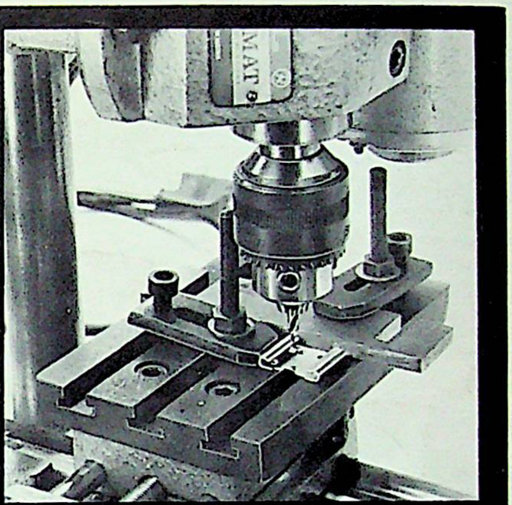
National Institute of Health
I.B.M.
Hughes Aircraft Corp.
National Aeronautics & Space Admin.
N.Y.U. Bellevue Hospital
General Electric Corp.
U.S. Naval Aviation Medical Center
Westinghouse Electric Corp.
General Atomics Div. (GE)
Texas Instruments
U.S. Army Ordnance
Western Electric Co.
Raytheon Mfg. Co.
Univ. of Oregon Med. School
General Motors



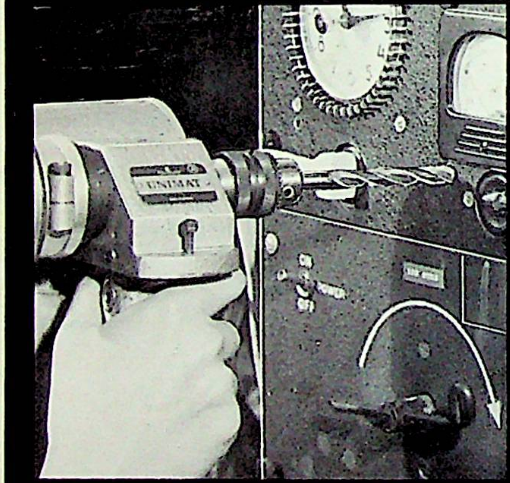
flycutting a lens board



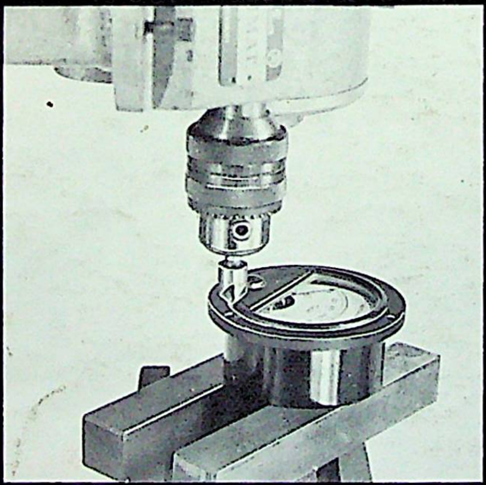
micro-drilling precision shaft



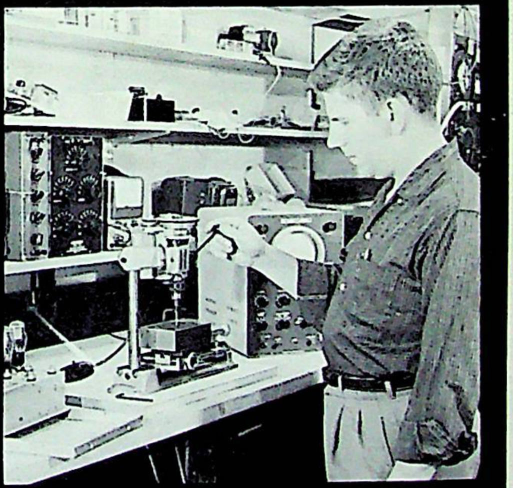
milling medical instrument part



modifying instrument panel

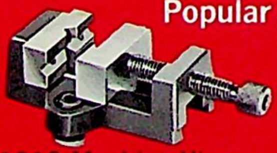


countersinking meter case



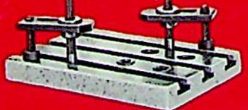
machining chassis in electronics lab

Popular Accessories



DB 1010 Machine Vise

Useful precision vise mounts on cross slide or DB 1210 Milling Table. Jaws are V-milled to grip round workpieces. Jaws open 1⅛-inch.
Price: $7.95



DB 1210 Milling Table

5" x 3" table mounts on cross slide. Permits clamping of complex shapes for milling, drilling, grinding. Complete with clamps.
Price: $10.50

DB 1100 Set of 6 Tool Bits

Consists of: ground roughing tool, right and left-hand finishing tools, parting-off tool, boring bar, inside threading tool. Price: $9.50

Live Center

Anti-friction centers for high speed turning or finishing.

DB-1220
Single-row ball bearings: $4.00

DB 1220a
Double-row ball bearings: 65

Unimat Handbook, "Miniature Machining Techniques"

40-page action packed handbook describes all special techniques of precision miniature machining. Over 150 action-detailed photos give you the straight inside look on Unimat. Get yours. Price: $1.00.